

Contributors to This Issue

M. R. AARON, B.S. in E.E., 1949 and M.S. in E.E., 1951, University of Pennsylvania; Bell Telephone Laboratories, 1951—. He first worked on analysis, design and synthesis of transmission networks for L3 and submarine cable systems. From 1954 to 1956 he supervised a group concerned with design of networks for the L3 system. Since 1956 he has been in charge of a group engaged in systems analysis of PCM. Member I.R.E.

R. D. BARNARD, B.E.E., 1952, and M.E.E., 1955, Polytechnic Institute of Brooklyn; Ph.D., 1959, Case Institute of Technology; Bell Telephone Laboratories, 1959-61; faculty, Wayne State University, 1961—. At the Laboratories he was primarily concerned with theoretical problems in communications and control. Member I.R.E., American Physical Society, Sigma Xi, Eta Kappa Nu, Tau Beta Pi.

VÁCLAV E. BENEŠ, A.B., 1950, Harvard College; M.A. and Ph.D., 1953, Princeton University; Bell Telephone Laboratories, 1953—. Mr. Beneš has been engaged in mathematical research on stochastic processes, traffic theory and servomechanisms. In 1959-60 he was visiting lecturer in mathematics at Dartmouth College. Member American Mathematical Society, Association for Symbolic Logic, Institute of Mathematical Statistics, Society for Industrial and Applied Mathematics, Mind Association, Phi Beta Kappa.

FRANKLIN H. BLECHER, B.E.E., 1949, M.E.E., 1950, and D.E.E., 1955, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1952—. His early work concerned the design of transistor circuits for application in analog and digital computers; design of wideband transistor feedback amplifiers for application in carrier systems; and development of active filters, IF amplifiers, and wideband video amplifiers. He later headed a group engaged in the development of solid-state and short-haul carrier circuits, and millimeter wave networks. This included the area of solid-state circuits for active communications satellites. Since May, 1961, he has been director of the Carrier Transmission Laboratory. Member I.R.E., Sigma Xi, Tau Beta Pi, Eta Kappa Nu.

CLAUDE G. DAVIS, B.S. in E.E., 1950, Case Institute of Technology; M.S. in Mathematics, 1960, Stevens Institute of Technology; Bell Telephone Laboratories, 1950—. He has specialized in transmission systems development, including the development of armorless submarine cable for a transoceanic telephone system, a PCM system for exchange trunks, PCM repeaters for an experimental waveguide transmission system, and the time assignment speech interpolation (TASI) system. He is currently responsible for groups concerned with satellite repeater design and data analysis. Member Eta Kappa Nu.

JAMES R. GRAY, B.S. in E.E., 1954, and M.S.E., 1955, University of Florida; Bell Telephone Laboratories, 1955—. He first engaged in repeater design for pulse code modulation systems. Since 1958 he has concentrated on PCM transmission impairment studies.

F. J. HALLENBECK, E.E., 1936, Polytechnic Institute of Brooklyn; Western Electric Co., 1923-25; Bell Telephone Laboratories, 1925—. For many years he was involved in the development of transmission networks for Bell System and military communication facilities. He later supervised a group engaged in the development of broadband carrier systems. In 1958 he assumed responsibility for L-carrier terminal development. Senior member I.R.E.; member A.I.E.E., Tau Beta Pi, Eta Kappa Nu.

KANEYUKI KUROKAWA, B.S., 1951, and Dr. of Eng., 1958, University of Tokyo; Bell Telephone Laboratories, 1959-61; University of Tokyo, 1961—. Dr. Kurokawa was engaged in research on low-noise amplifiers at Bell Laboratories for two years, during which time he was on leave of absence from his position as assistant professor at the University of Tokyo. Member I.R.E., Institute of Electrical Engineers (Japan), Institute of Electrical Communication Engineers (Japan).

HENRY MANN, B.A., 1950, Brooklyn College; M.S. in E.E., 1955, Columbia University; Bell Telephone Laboratories, 1954—. His work has included the design of the synchronizing circuits, demultiplex gate, and portions of the encoder for the experimental pulse code modulation system. He also engaged in the development of a system for the transmission of two PCM groups over short-haul microwave carrier circuits. He is presently responsible for the design of a command decoder for an experimental active satellite communications system. Member I.R.E., Pi Mu Epsilon.

JOHN S. MAYO, B.S. in E.E., 1952; M.S. in E.E., 1953; Ph.D. in E.E., 1955; North Carolina State College; Bell Telephone Laboratories 1955—. He first engaged in computer research, including studies relating to the use of digital computers for measurement and automatic tracking of pulsed radar range information, and in military weapons control systems. His recent work has involved the development of line repeaters for an exchange carrier PCM system, and high-speed PCM terminals for an experimental waveguide transmission system. He has been in charge of the PCM Transmission Department since December, 1960. Member I.R.E., Sigma Xi.

STEPHEN O. RICE, B.S., 1929, Oregon State College; Graduate Studies, California Institute of Technology, 1929-30 and 1934-35; Bell Telephone Laboratories, 1930—. In his first years at the Laboratories, Mr. Rice was concerned with nonlinear circuit theory, especially with methods of computing modulation products. Since 1935 he has served as a consultant on mathematical problems and in investigation of telephone transmission theory, including noise theory, and applications of electromagnetic theory. He was a Gordon McKay Visiting Lecturer in applied physics at Harvard University for the Spring, 1958 term. Fellow I.R.E.

R. H. SHENNUM, B.S. in E.E., 1944, and M.S. in E.E., 1948, Montana State College; Ph.D., 1954, California Institute of Technology; Bell Telephone Laboratories, 1954—. He first worked on the design of microwave parts for the TJ microwave system. Later he was responsible for companding, signaling and voice-frequency circuit development, and field experiments, for an exchange carrier PCM system. Currently, as head of the Satellite Design Department, he is responsible for the development of the electronic system for the active satellite for an experimental satellite communications system. Member A.I.E.E., Sigma Xi, Tau Beta Pi, Phi Kappa Phi.

HAROLD M. STRAUBE, B.S. in E.E., 1939, University of Michigan; Northwestern University, 1939-41; Bell Telephone Laboratories, 1941-60; R.C.A., 1960—. His early work at the Laboratories concerned the design and development of panoramic receivers, underwater range devices, radar test equipment, and television test equipment. He later engaged in electronic-switching research, transmission research, and work on high-frequency transistor circuits, and subsequently was involved in various developmental aspects of an experimental PCM ex-

change carrier system, particularly the design and evaluation of a compandor. Mr. Straube is presently concerned with the development of digital communication systems at R.C.A. Senior member, I.R.E.; member Sigma Xi.

LAJOS F. TAKÁCS, Doctor's degree, 1948, University of Technical and Economical Sciences, Budapest; Doctor of Mathematical Sciences, 1957, Hungarian Academy of Sciences; Tungsram Research Laboratory (Telecommunications Research Institute), Budapest, 1945-55; Research Institute for Mathematics of the Hungarian Academy of Sciences, 1950-58; Roland Eötvös University, Budapest, 1953-58; Columbia University, 1959—; consultant, Bell Telephone Laboratories, 1959—. At present he is teaching probability theory and stochastic processes, and he is engaged in research in the mathematical theory of telephone traffic. Member American Mathematical Society, Mathematical Association of America, Society for Industrial and Applied Mathematics, Institute of Mathematical Statistics, Sigma Xi.

CLAUDE P. VILLARS, M.S. and Ph.D., Swiss Federal Institute of Technology, Zurich; Bell Telephone Laboratories, 1954-60. At the Laboratories, Mr. Villars was responsible for the design of the coder for the experimental exchange carrier pulse code modulation system. Member I.R.E., Institute of Electrical Engineers (Great Britain).